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This paper is intended to begin laying out the organizational specifications for analyzing clinical settings in education (settings in which the activities of teacher development and educational research are carried out in close conjunction with a public school system's instructional program). Seven organizational properties important to understanding the effectiveness of a given clinical training progra m are identified through a comparative analysis of sociological studies of occupational training programs in various professions: (1) the program phase: disruptive or not disruptive; (2) the training environment: restrictive or open; (3) authority relationships: traditional or encouraging inquiry; (4) the setting; focused or diffused; (5) activities: their similarity to the "core tasks" of the occupation; (6) degree of visibility of learner activities; (7) degree of learner interaction with "role models." The criteria are then used in a comparative analysis of (1) traditional teacher internship programs and (2) a proposed clinical program based on that used in undergraduate and graduate training of physicians in teaching hospitals. The final section proposes a design for a "clinical school" (the organizational analogue in education to the teaching hospital) which goes further than present "laboratory schools" in research and development activities and in providing training for personnel from first-year graduate interns to senior doctoral students specializing in some aspect of teacher education. (JS)

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THE THIRD FLORENCE B. STRATEMEYER LECTURE

An Approach to the Analysis of Clinical Settings for Teacher Education

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Address Presented to the Annual Meeting of the Association

Chicago, Illinois

February 15, 1968

SP002469

FLORENCE B. STRATEMEYER

Florence B. Stratemeyer has been a long-time member and supporter of the Association for Student Teaching. She has contributed significantly to the work of the Association. In 1932 Professor Stratemeyer served as president and later was made an honorary member. The growth of the Association has been due in no small measure to her dedicated efforts.

Professor Stratemeyer's contributions to the field of teacher education have been far-reaching. The impact of School and Community Laboratory Experiences, published in 1948 by the American Association of Teachers Colleges, was in great measure the result of her contributions; she was responsible for a major portion of Teacher Education for a Free People, published by the American Association of Colleges for Teacher Education in 1956; with Margaret Lindsey she wrote Working With Student Teachers (1958). She was chairman of the Committee on Pre-Service Education of the National Commission on Teacher Education and Professional Standards. The work of the Commission resulted in the publication New Horizons for Teacher Education (1961). Since her retirement from Teachers College, Columbia University in 1965, Professor Stratemeyer has become Distinguished Professor of Education at Eastern Kentucky University. It is fitting that the Association for Student Teaching should acknowledge her contribution to teacher education.

ROBERT GORDON MC INTOSH

Robert Gordon McIntosh received a Bachelor of Science degree in chemistry and mathematics in 1958 from the University of Saskatchewan; he earned a Master of Science degree in physical chemistry in 1959 and a Bachelor of Education degree in 1961 at the same institution. Pursuing his interest in teacher education Mr. McIntosh entered Harvard University and was awarded a Master of Education degree in 1964. He is presently a candidate for the degree of Doctor of Education at Harvard. His experience includes work as a research assistant, teaching fellow and instructor in chemistry, as well as assistant professor of Education, at the University of Saskatchewan. At Harvard, Mr. McIntosh has served as research assistant in the Sociology of Education and as Assistant Director of the Harvard Academic Year Institute for Teachers of Science and Mathematics. He is currently Chairman of the editorial board of the Harvard Educational Review. His specific professional interest at present is the study and development of clinical training programs in teacher education.

AN APPROACH TO THE ANALYSIS OF CLINICAL SETTINGS FOR TEACHER EDUCATION

I

Considerable activity in recent years has been directed toward the development of new organizational answers to persistent problems of research and personnel training in the field of education.[1] For example, research and development centers have been established at a number of universities to study such problems as early childhood education, the instructional process, educational administration, and programed instruction. Supplementary education centers are being established in local school systems to improve the quality of instructional services. Regional education laboratories are being developed on the pattern of the experimental station in agriculture for research and the dissemination of research findings.

This recent organizational experimentation in education is, in large part, a response to defincienc:es in the coordination of (1) school instructional services, (2) teacher education and the training of curriculum and instruction specialists, and (3) educational research and development. For example, Conant has recently pointed to major deficiencies in the coordination of school and university efforts in the area of student teaching, and has suggested that a new role, the clinical professorship in education, may offer promise in the solution of these problems.[2] The relationship of research to practice is a second example of deficient coordination in education. For example, the results of research and development are not quickly disseminated to the schools, i.e. they affect practice slowly and in marginal ways.[3]

Improvements in instructional practice follow from innovations in practice (the products of educational research and development) and the dissemination of these innovations through teacher education, both pre-service and in-service. I would argue that, to date, educational research and development have not been systematically integrated with the schools or with the training of educational personnel. Indeed, much of the research and development activity in education seems to be centered in organizations operating independently of practice and training. Little attention in

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[1]See, for example, Hendrik D. Gideonse, "The National Program of Educational Laboratories," Phi Delta Kappan, XLVII, No. 3 (November, 1965), 130-133

[2]James B. Conant, The Education of American Teachers (New York: McGraw-Hill Book Company, 1963), pp. 143, 233-237.

[3]Paul F. Lazarsfeld and Sam D. Sieber, Organizing Educational Research (Englewood Cliffs, N. J.: Prentice-Hall, Inc. 1964); and Henry M. Brickell, Organizing New York State for Educational Change (Albany, N.Y.: State Education Department, 1961.

education has thus far been directed to organizational types which might articulate instruction, training, and research and development functions. The primary concern seems to have been with two-way linkages, i.e. between teacher education institutions and the schools, or between centers for research and development and the schools.

I began the work on this paper with the normative assumption that organizations should be designed which integrate the three functions of instruction, teacher development, and research. The focus of my attention from the beginning was the school. The question I asked was: What would be the general organizational specifications for a school which embraced the additional functions of teacher development and research?

These organizational properties, I decided, must at minimum be an adequate response to Schaefer's recent indictment of school organization.[4] Schaefer argued that means must be found for the continuing professional development of teachers. The real problem, he claimed, is that "the school environment makes so few provisions for (the) steady expansion" of a teacher's knowledge.[5] Schools must be created which serve as "centers of inquiry."[6]

Whereas Schaefer spoke of the need for schools which serve as "centers of inquiry," I shall speak of the need for properly designed clinical settings for teacher development and educational research. A clinical setting, as I define it, is one in which activities such as teacher development and educational research are carried on in close conjunction with the school's instructional program. The kind of clinical setting in which I am interested is one which could also be termed a "school that inquires."

The purpose of this paper is to begin the task of laying out the organizational specifications for analyzing clinical settings in education. My approach to the identification of the relevant organizational properties for describing and assessing the relative effectiveness of clinical settings is through a comparative analysis of sociological studies dealing with occupational training.

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[4]Robert J. Schaefer, The School as a Center of Inquiry (New York: Harper & Row, 1967).

[5]Ibid., p. 14.

[6]Ibid., p. 59.

II

A considerable number of sociological studies of occupational training programs have been reported in recent years.[7] An analysis of these studies suggests the importance of the following properties in understanding the effectiveness of a given clinical training program:

(1) the degree to which the situation is different from prior instructional experiences, and hence disruptive to the learned responses which the learner brings with him to the program;

(2) the porosity of the instructional environment to "outside" stimuli;

(3) the "stance" toward teachers required of learners in the training setting: is the learner expected to show conforming or inquiring behaviour?

(4) certain properties of the instructional setting related to teacher and learner interaction;

(5) the instructional activities of teachers and learners;

(6) the visibility of teacher and learner activities; and

(7) certain properties of the relationships of the learners to possible role models.

In the following pages each of these properties will be discussed, and the nature of the variation on each of these dimensions will be described.

1. The Training Program: Challenge or "More of the Same?"
In the early stages of occupational training programs, one may observe a tendency for students to respond to stimuli which they perceive as familiar in ways previously learned but which are not approved by their instructor

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[7] See, for example, Robert K. Merton, et al., (eds.), The Student-Physician: Introductory Studies in the Sociology of Medical Education (Cambridge, Mass.: Harvard University Press, 1957); Howard S. Becker et al., Boys in White: Student Culture in Medical School (Chicago: University of Chicago Press, 1961); Charles D. Orth, Social Structure and Learning Climate: The First Year at the Harvard Business School (Boston: Harvard Graduate School of Business Administration, 1963); Dan C. Lortie, "Laymen to Lawmen: Law School, Careers, and Professional Socialization," Harvard Educational Review, XXIX (1959), 352-369; Joseph H. Fichter, Religion as an Occupation: A Study in the Sociology of Professions (Notre Dame, Ind.: University of Notre Dame Press, 1961), Chapter 4, "Formation and Training"; and Morris Janowitz, The Professional Soldier: A Social and Political Portrait (The Free Press of Glencoe, 1960), Chapter 7, "Career Development."

in the new context. Khleif[8] and Bucher and Strauss[9] have noted the tendency for young physicians beginning their psychiatric residentships to respond to the patients' symptoms in ways which suggest an "instinctive" use of a biologic frame of reference. It is necessary, then, for these students to unlearn approaches to the patient learned in medical school as they acquire the psychological perspectives of the specialty for which they are training. A similar problem is encountered in graduate programs of teacher education where first year students, all specialists in academic disciplines such as history or mathematics, tend to resist the inclusion of psychological and sociological considerations in their analyses of teaching as urged upon them by their instructors.

Thorner reports that the optimum circumstances for effecting transitions of the kind suggested above involve the disruption of connections with old sources of support:

> Disintegration of the system of legitimate expectations and behavior patterns (anomie) with the unleashing of emotions receptive to reintegration constitutes the optimum condition for the formation of new patterns, norms, values, and authorities.[10]

Consider, for example, Edgar Schein's interpretation of the Chinese program for the indoctrination of prisoners during the Korean war:

> The essence (of the Chinese policy of treating prisoners as men in need of "education") is to gain complete control over those parts of the physical and social environment which sustain attitudes, beliefs, and values, breaking down interactions and emotional bonds which support the old beliefs and values, and building up new interactions which will increase the probability of the adoption of new beliefs and values.[11]

Fred Davis' study of a nursing program includes an excellent example of the disruption of connections to old sources of support.[12]

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[8]Bud Khleif, "Professions as Ideology: The Training of Clinicians," Paper read at the Harvard Graduate School of Education, February 27, 1967. (Unpublished.)

[9]Rue Bucher and Anselm Strauss, "Professions in Process," American Sociological Review, XXII (April, 1957), p. 329.

[10]Isidor J. Thorner, "Nursing: The Functional Significance of an Institutional Pattern," American Sociological Review, XX (1955), p. 531 n.

[11]Edgar H. Schein, "The Chinese Indoctrination Program for Prisoners of War," Psychiatry (May, 1956), 149-172.

[12]Fred Davis, "Professional Socialization as Subjective Experience: The Case of Student Nurses," Paper read at the meetings of the International Sociological Association, Evian, France, September, 1966. (Mimeographed.)

Students bring with them a "lay image" of nursing-- the nurse is a person "actively doing in behalf of some socially worthy goal...infused with ...love, care and a desire to help others."[13] The nursing school defines the nursing role somewhat differently -- the nurse is a professional who is sensitive to the social and psychological factors in illness and recovery, who sees her relationship to the patient as an instrument in the therapeutic process, and who has developed critical skills in the analysis of nursing practice.[14]

Instructed to study the nurse-patient relationship by observing and talking with the patients, student nurses in the first months of school experience "feelings of embarrassment, uselessness and personal inadequacy."[15] The students feel deprived of opportunities to "do," i.e. do the tasks which they had believed to be central to the nurse's role. Their instructors minimize the significance of student mastery of the technical procedures which are taught. This confuses the students and stimulates them to search for the new patterns of behavior which are valued by their instructors.[16]

Consider, as a final example, the disruption effected by the passage into the priesthood as described by Everett Hughes:

> The very process of making a priest is to envelope the candidate in the ecclesiastical world, definitely to limit even the number of letters he can write to his family, to give him a new and formalized language; in short, to make a new person of him, with a new definition of his wishes. This does by discipline what sects attempt to do by conversion; namely, to erase the person's past so that he may be completely mobilized for carrying out his mission.[17]

An important property of the introductory phases of a training program, then, is the degree to which it calls into question (disrupts) old beliefs, values, and ways of behaving, and stimulates the learner to search for new responses appropriate to the problems of the new situation. A given training program could be described by its location on a dimension ranging from high to low disruption. The less the disruption caused by the program, the more appropriate to the demands of the training situation will previously learned responses seem. The greater the disruption, the greater the anxiety induced in students and the more vigorous will be their search for new responses.

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[13] Ibid., p. 5.

[14] Ibid., pp. 6-8.

[15] Ibid., p. 10.

[16] Ibid., p. 12.

[17] Everett C. Hughes, Men and Their Work (Glencoe, Ill.: Free Press, 1958), p. 32.

The explicitness of the cues offered by the faculty for desired student responses is important in circumstances of high disruption. In the absence of explicit faculty cueing, the student peer group becomes the means for resolving the problems presented by the situation -- and the conditions for peer group formation, frequent student interaction in particular, become even more important variables than they would otherwise be.

2. The Training Environment: Restrictive or Open?

Let us imagine a hypothetical boundary between the clinical training setting and the world outside the setting, the boundary being implied by the socio-psychological construct training environment. Then we may say that training programs vary in the degree to which interaction across the "boundary" between learners on the one hand, and individuals and groups representing different commitments and perspectives, on the other, is permitted or encouraged. At the extreme, there is the student in the Chinese thought-reform school as reported by Lifton:

> He is living in a virtually airtight communication system: he does not leave it, no outside or contradictory ideas come through to him, and he never has the opportunity to weigh objectively a thought or attitude.[18]

Dornbusch has reported on the use of isolation to minimize the intrusion of external stimuli which may distract the student from the learning environment created by the administration of the United States Coast Guard Academy:

> For two months...the swab is not allowed to leave the base or to engage in social intercourse with non-cadets.... The role of the cadet must supersede other roles the individual has been accustomed to play.[19]

The curtailment of student interaction with individuals outside the training institution may be achieved, deliberately or inadvertently, by indirect means. Becker and his associates have described the first year of medical school as follows:

> The environment of the first year is so structured that freshmen are virtually isolated from everyone but their own classmates and faculty. All freshmen follow a uniform schedule and curriculum.... Students attend few university functions; they have virtually no student government or other extracurricular activities.... (S)tudents have little chance to see anyone but classmates during the day.... Evenings and many hours of the weekend are filled with preparation and review of daily work.[20]

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[18] R. J. Lifton, "Thought Reform of Chinese Intellectuals: A Psychiatric Evaluation," Journal of Social Issues, XIII (1957), p. 12

[19] S. M. Dornbusch, "The Military Academy as an Assimilating Institution," Social Forces, XXXIII (1955), p. 316.

[20] Becker et al., op. cit., pp. 88-89.

In varying degrees, each of the above three instructional programs controls the stimuli to which the student is exposed by controlling his cross-boundary interactions. These will be referred to as restrictive environments. In other training programs, cross-boundary interaction is encouraged or at least permitted. These will be referred to as open environments.

3. The Training Environment: Character of the Authority Relationships. A second dimension for describing the "environment" of a training setting has to do with the authority relationships among teachers and learners in the setting. This dimension can perhaps be best understood by considering the differences in nursing training programs noted by Medalie and Levinson, as offered by general hospitals and a psychiatric hospital in the metropolitan Boston area.[21]

Medalie and Levinson describe the general hospital in the following terms:

> On the basis for organization: "...the general hospital is organized along relatively rigid, hierarchical lines. The predominant values are duty, efficient performance of technical tasks, precision in following orders, and the like."[22]
>
> On the training program: "The educational emphasis is largely on procedure. In her courses in nursing arts, the student is taught that there are right and wrong procedures and that skill in performing technical tasks is of prime importance. The procedural emphasis is carried to an extreme in some cases; for example, students may be required to wash the right arm of the patient before the left, or the reverse.... She is expected to carry out with precision orders from both the nursing and medical hierarchies."[23]
>
> "The teaching emphasis is upon learning 'facts' rather than evaluating them; learning what is given rather than thinking for oneself is the preferred value and mode of operation in many schools."[24]
>
> On authority relationships: "Authority relationships tend to be structured along traditional lines; emphasis is placed upon good manners, upon formal, ritualistic patterns of relating, upon the importance of overt signs of respect to authority."[25]
>
> "There is little room for the student to develop self-regulation in her personal life and independent decision-making in her work."[26]

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[21]Joanne D. Medalie and Daniel J. Levinson, "Professional Development and Organizational Role: A Study of Student Nurses in a Psychiatric Hospital" (Boston, Mass., n.d.). (Mimeographed.)

[22]Ibid., p. 10.

[23]Ibid., p. 13.

[24]Ibid., p. 14.

[25]Ibid., p. 16.

[26]Ibid., p. 17.

This description of the "environment" of the general hospital nursing training program stands in marked contrast to the authors' description of the "environment" of the small, short-term psychiatric hospital which they studied:

> On the basis for organization: Medalie and Levinson describe the "self-questioning spirit of the hospital as...staff members at all levels (grapple) with problems of interpersonal relations...."[27] At other points they report that "the environment is extremely fluid and active,"[28] and "unusually open and friendly."[29]
>
> On the training program: The authors report that the students are asked "to unlearn much of what they have learned to value in their general nursing training. They are told that the important thing is not to utilize any particular technique but to relate to patients as a person. Whereas in her past training the emphasis was on ritual, on limiting personal expression in the performance of specific tasks, the reverse is stressed in the psychiatric affiliation.... A switch from 'doing' to 'being' occurs in what is expected of the student."[30]
>
> On authority relationships: Medalie and Levinson report that "the students are urged to question, even to disagree if they are so inclined."[31]
>
> "In matters of patient care, there is no fixed authority to which a student can appeal when she is in doubt. Often she must take initiative to seek out the appropriate person to talk with about a patient."[32]
>
> "The student is given an opportunity for self-assertion to a far greater degree than in the general hospital.... She is given some choice in what tasks she does and in what way she does them."[33]

For the purposes of analysis in the paper, the training environment which places high value on "precision in following orders" will be referred to as a traditional environment. On the other hand, a training environment which elicits and rewards initiative and critical thought at all "levels" of the organization will be referred to as an inquiry-environment.

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[27] Ibid., p. 38.
[28] Ibid., p. 23.
[29] Ibid., p. 37.
[30] Ibid., pp. 28-29.
[31] Ibid., p. 30.
[32] Ibid., p. 32.
[33] Ibid., p. 33.

4. The Training Setting: Focused or Diffused? Whereas the concept training "environment" refers to qualities of the interpersonal relationships characteristics of a training program, the term "setting" has a more concrete referent. The specific configuration of interaction between and among learners and teachers is dependent upon the properties of the settings used in the training program. If there are facilities in the settings which are frequently used by learners and teachers, the settings may serve as a focal point for learner-teacher interaction. Laboratories, clinics, and perhaps libraries are examples of focal points for frequent, intense, and sustained interaction among learners and teachers.

A training program may have a number of focal points for such interaction -- frequent, intense, sustained interaction -- or it may have none. Such focal points serve as the nucleus around which a group -- i.e. "a number of persons who communicate with one another often over a span of time, and who are few enough so that each person is able to communicate with all the others, not at secondhand, through other people, but face-to-face"[34] -- may crystallize.

Beacker and Carper have discussed the department laboratory as a setting for the training of physiologists. They report that by his second year of graduate study, the physiology student

> ... finds himself spending a great deal of time in the department laboratories, working on his own or his professors' research, and is thrown into continual day-and-night contact with "the clique." This is a loosely organized group of those whose work is centered around the laboratory.... Conversations with third- and fourth-year students in this group take place at work and during "coffee breaks," and the student thus becomes integrated into a group whose major concerns are the problems and techniques of physiological research and the job and career prospects of the young physiologist. His interest in science is reinforced, and he begins to develop specific notions as to the kind of occupational future he might expect as a physiologist....[35]

The work of the laboratory creates occupationally-relevant problems for students; the laboratory setting provides opportunities for frequent and sustained interaction; this facilitates the solution of these problems through the formulation of group perspectives on the work of the physiologist and his career.

On the other hand, the activities of students and faculty may not be drawn toward focal points such as the laboratory in the above example. The more common case, in fact, may be one where students' activities are not drawn toward such focal points. Then a student's interaction with fellow students and members of the instructional staff may be infrequent and superficial. Consider the case of the student attending an urban, non-residential college as described by Clark and Trow:

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[34]George C. Homans, The Human Group (New York: Harcourt Brace and Company, 1950), p. 1.

[35]Howard S. Becker and James Carper, "The Elements of Identification with an Occupation," American Sociological Review, XXI (June, 1956), p. 292.

> The student living at home, working, and commuting generally attends classes in the role of student-visitor.... With his life lived off campus and his time and attention caught up in off-campus roles, neither the campus nor the classroom has much chance to engage the student's personality.[36]

When a substantial proportion of the activities of both learners and teachers are drawn toward a focal point, the instructional setting will be referred to as a focused setting. When student and faculty activities are infrequently drawn toward a focal point, the setting will be referred to as diffused.

5. Activities Performed in the Training Setting: Their Similarity to the "Core Tasks" of the Occupation. The activities of the learner in a training setting may be very similar to the "core tasks" performed by qualified professionals, or they may be quite different. The relevance of this property of the training program can be seen in the following passage, which refers to the significance of training activities wherein the medical student assumes some of the responsibilities of the physician:

> If the exercise of medical responsibility is seen as one of the key traits of the full-fledged physician, and if opportunities to exercise it are given more frequently to students and house staff as they move up to higher positions in the hospital hierarchy, then the experience of exercising responsibility should be a crucial influence on the student's assessment of himself, reflecting as it does the presumably considered judgment of his superiors on his abilities, expressed in the objective form of privileges granted or withheld.[37]

To have opportunities to "take on" the occupational role is to facilitate the subjective assessment of "self-in-role." Not all professional schools, however, provide such opportunities for their students. Legal education is particularly delinquent in this respect. Lortie has reported that

> For three years the young attorney, studying in a special school, is isolated from the market place of legal services, and he often graduates without any contact with real legal work. His school environment provides small opportunity and although his knowledge of legal principles probably exceeds that of his nineteenth-century predecessor, he graduates with minimal knowledge of the procedures and institutions of practice.... The law school curriculum provides little opportunity for students to learn and wrestle with the values that must be resolved in everyday practice. One of the most striking omissions is the absence of occasions on which students can actually play the role of lawyer.... No real clients are served and no real cases are handled by law students prior to graduation.[38]

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[36]Burton R. Clark and Martin Trow, "The Organizational Context," in T. M. Newcomb and E. K. Wilson (eds.), College Peer Groups (Chicago: Aldine Publishing Company, 1966), p. 60.

[37]Becker et al., op. cit., p. 260.

[38]Dan C. Lortie, "Laymen to Lawmen," op. cit., p. 364.

The paucity of opportunities for students to "play the role of lawyer" in legal education should be contrasted with the opportunities to engage in activities closely akin to those of the physician apparently made available to students in the clinical years of medical education. Note also the effect these activities have on students:

> ... much of the students' work...has quite a different character and is much nearer the work of the practicing physician they expect to become. They now become, in essence, apprentices who learn not by studying material from books and lectures but by doing under the supervision of those who are already doctors the things they will later do as doctors.
>
> . . . . . .
>
> The shift in emphasis of the students' work is enough of a change to bring back into play the long-range perspective students had entered with as freshmen but had given up because it was irrelevant in the exclusively academic setting of the freshman year. They can now look again on their schoolwork as training for medical practice, instead of a series of academic hurdles they must clear before they are allowed to practice.[39]

6. Visibility of Activities in the Training Setting.

The activities of students in a training setting may be carried out under conditions ranging from high to low visibility. A high visibility training setting has the following characteristics: (1) The training setting is such as to make opportunities for observation of the work of both learners and teachers readily accessible to others; and (2) The activities carried out in the setting are perceived by the learners as directly relevant to their later successful performance in the occupational role.

By this definition, visibility is only in part an objective property of a given training situation; it is also a function of the learners' subjective response to that situation at a given stage of their training program. The latter qualification is necessary to take account of situations such as the basic science laboratories in the pre-clinical years of medical education,[40] where students apparently approve of a number of irregular practices because they perceive the required activities to be irrelevant to their proximate occupational goal. In an objective sense, these activities are highly visible -- but because they have no bearing on students' conceptions of themselves in the situation would be described as having low visibility.

The student's work in the clinical years of medical school is carried out, in large measure, under conditions of high visibility:

> The bulk of the student's work consists of "working-up" patients who come to the clinics or are admitted to the wards and then assigned to him and of performing minor diagnostic and therapeutic procedures on them.
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> . . . . . .

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[39] Becker et al., op. cit., pp. 221-222.

[40] Ibid., pp. 116-117.

> All the information from the history and physical, the differential diagnosis, and the plan of treatment are written down in a standard form suggested by the faculty, and this document is placed in the patient's hospital chart.... The chart, while not a public record, is available to all authorized hospital personnel.... Consequently the student's work-up can be seen by a great many people.[41]

It may also be possible to achieve conditions of high visibility in simulated clinical settings. Consider, for example, the use of the case method of instruction as employed at the Harvard Business School.[42] The first-year student attends classes with some ninety fellow students and an instructor in large amphitheater-like classrooms in which the principal activity is the discussion of cases--"real business situations in which executives take action and are responsible for the results."[43] According to Orth, the Harvard Business School does manage to simulate several important features of the business world:

> ... the School has developed an atmosphere characterized by many of the same kinds of pressures which may be found in the business world. The way the student body has been organized and the curriculum developed has resulted in demands on the students for long hours of hard work, for making decisions under pressures of both time and competition from fellow students, and for demonstrating their ability to communicate ideas effectively before 95 critical peers.[44]

To the extent that students perceive the discussion of cases as an activity closely related to performance in the occupational role, this training setting could be said to have high visibility.

The standard low visibility training setting can be illustrated by aspects of the work of the freshman year of medical school. According to Becker and his associates:

> The size of the class (about one hundred students) and the formal lecture system minimizes interaction between students and faculty. Although students ask questions after lectures and during labs, there is insufficient time and staff for much individual attention.... Students are photographed at the beginning of the year and wear their names on their lab coats, but even at the end of the first semester instructors have trouble fitting names and faces.[45]

A less apparent case of low visibility is the situation in which a student's activities are readily observable by certain members of his role set, but relatively inaccessible to observation by others. Such a situation

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[41] Ibid., pp. 194-196.

[42] Charles D. Orth, op. cit.

[43] Ibid., p. 33.

[44] Ibid., p. 49.

[45] Becker et al., op. cit., p. 89.

often obtains in the student teaching phase of teacher education. The student's work is carried out under the continuing supervision of a co-operating teacher (a regular staff member of the school), but with only infrequent visits by a representative of the school of education. Thus, the student teacher is differentially visible to these two members of the role set. Iannaccone, in a recent study of teacher education,[46] has documented the effects of this arrangement on the perspectives of student teachers:

> Twenty-four (of the twenty-five) student teachers studied followed the pattern of learning to justify what had previously disturbed them as in conflict with what they had been taught in college.... (T)he student teachers with one exception, when faced with a problem such as disruptive behavior on the part of a pupil, fell back upon a technique they had observed earlier in the first period of student teaching. Even techniques or patterns of teacher behavior, which they had previously identified as violations of what they had learned at college, were now used by the student teachers. Further, they found that this following of the cooperating teacher's pattern worked to get them out of the immediate dilemma. What worked to get through the lesson at hand or past the immediate dilemma they faced, was re-evaluated as good by the student teachers.[47]

Under conditions of more balanced visibility, it is very likely that student perspectives on teaching would not have changed so dramatically in the direction of the perspectives held by the cooperating teacher.

It may be the case that a student's work is more visible to his clients than any other sector of his role set. Consider, for example, the relationship of the nursing assistant to his patients, as reported by Geer and her associates:

> ... the nursing assistant in training learns from his patients how to do his work. Because they are people to whom trainees do things, and in this sense temporarily subordinated clients, patients seem to us poorly cast as teachers of the ropes. But many of them are residents of the hospital before the trainee arrives on the scene and, under the hospital's system of rotating employees, may have dealt with several nursing assistants. They know how his job should be done. Teaching him to do it properly can only add to their comfort.[48]

Again, the goals of the professional school may well be subverted under these circumstances of imbalanced visibility, where important aspects of student performance are relatively inaccessible to observation by the faculty of the professional school.

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[46]Laurence Iannaccone, "Student Teaching: A Transitional Stage in the Making of a Teacher," Paper based on research done in Project 1026 of the Cooperative Research Division of the U.S. Office of Education, no date. (Mimeographed.)

[47]Ibid., p. 6.

[48]Blanche Geer et al., "Learning the Ropes: Situational Learning in Four Occupational Training Programs," in Irwin Deutscher and Elizabeth Thompson, Among the People: Studies of the Urban Poor (New York: Basic Books, forthcoming). (Mimeographed), p. 18.

7. Role Models. I shall assume that the process of professional training is facilitated by frequent interaction of students with persons who act as occupational role models for them, and shall further assume that the operative mechanism here is that of identification. The process of identification, according to Kelman, is operative when "an individual adopts behavior derived from another person or group because this behavior is associated with a satisfying self-defining relationship to this person or group."[49] Through personal identification

> ... the individual takes over all or part of the role of the influencing agent. To the extent to which such a relationship exists, the individual defines his own role in terms of the role of the other. He attempts to be like or actually to be the other person. By saying what the other says, doing what he does, believing what he believes, the individual maintains this relationship and the satisfying self-definition that it provides him.[50]

It would seem to follow that more students will be likely to establish "self-defining" relationships if the training program brings students into frequent interaction with a diversity of possible role models.

If it can be assumed, furthermore, that the likelihood of establishing a self-defining relationship with a performance model is related to the student's commitment to the occupation represented by the model then the following assertion would seem plausible. Because medical students, for example, typically approach their years in professional school with the view that "medicine is the best of all professions,"[51] it is more likely that a medical student will come to "identify" with a clinical staff member or senior student than, say, the student in a graduate program of teacher education who typically is not, on entry to the program, particularly committed to the occupation of teaching.[52]

Training settings, then, can be differentiated by the opportunities they provide for students to identify with occupational role models. The pre-clinical phase of medical education is an example of a setting where few such opportunities are provided:

> Since faculty members hold Ph.D.'s in the pre-clinical sciences rather than medical degrees, and lab assistants are graduate students in these disciplines, neither serve as career models for the freshmen, except for the rare individual...who intends to leave medical school...to take a basic science degree.[53]

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[49]Herbert C. Kelman, "Processes of Opinion Change," Public Opinion Quarterly, XXV (Spring, 1961), p. 63.

[50]Ibid.

[51]Becker et al., op. cit., p. 72.

[52]Blanche Geer, "Occupational Commitment and the Teaching Profession," The School Review, LXXIV (Spring, 1966), 31-47.

[53]Becker et al., op. cit., p. 89.

The effect of this is predictable: "students...define entire courses or areas of subject matter as relatively unimportant and hence worthy of less effort."[54]

Medical education also provides settings where the conditions affecting identification are adequately met. Consider the following exchange:

> After we had seen the patient and decided on his disposition, Dr. F. lowered his voice and said to me, "What do you intend to do after medical school?" I told him internal medicine, and he said, "Good." So far as I am concerned, this is a big fat pat on the back, and I don't know whom I'd rather have it come from.... It is nice to know that Dr. F. approves of me.[55]

This exchange is partially illustrative of the process by which medical students decide on an area of specialization during the clinical years. High-ranking students express an increasing interest in specialized study as they advance through medical school, particularly in the final year. Kendall and Selvin account for this as follows:

> ... the student's development of a specialized orientation may be as much a part of his indoctrination in medical school as is his acquisition of certain technical skills and knowledge.... He may have come to medical school with the firm conviction that he will work as a general practitioner; in medical school, however, he probably has little opportunity to see, at first hand, what general practice is like; his clinical instructors, and the other physicians with whom he comesin contact, have all received highly specialized training; taking them as his models, he may gradually revise his original plans and intentions. In the larger profession as a whole he sees that the physicians who receive acclaim are again those who are either highly specialized in some limited area, or who have made some contribution in a specialized field.[56]

In conclusion, we can say that the medical student in his clinical years has frequent interaction with a variety of specialists to whose occupational status he likely aspires. Thus, the conditions for identification are met.

The Analytic Models. The above discussion will be used as the basis for the analysis of two approaches to training -- the "internship" and "clinical" approaches -- later in this paper. At this point, I will pull together the threads of the argument presented thus far in preparation for this comparative analysis.

A matter of definition must first be considered. I shall use the term program to denote the overall sequence of studies leading to occupational membership. For example, if we were to speak of a "program" of medical

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[54]Ibid., p. 117.

[55]Robert K. Merton et al. (eds.), The Student-Physician, p. 173.

[56]Patricia L. Kendall and Hanan C. Selvin, "Tendencies toward Specialization in Medical Training" in Robert K. Merton et al. (eds.), op. cit., pp. 172-173.

studies, we would be referring to a total sequence of studies leading to, say, certification as a specialist in internal medicine. Such a program is made up of several patterns; in this case, these patterns include pre-clinical studies, clinical clerkships, internship, and residency. Each pattern can be analyzed in terms of the organizational factors presented above. In the analysis and discussion of the following sections of this paper, I shall be concerned with the comparison of two "patterns" for training -- the internship and the clinical -- and with suggesting some "program" specifications which would seem to follow from the analysis.

We return now to the organizational factors presented above. I propose that these factors can each be associated with the effectiveness of a given training pattern.

(1) First, I propose that a pattern which confronts the learner with situations that he has not previously learned to handle, and with which he must learn to cope adequately to perform the tasks of the occupation, will be more effective than a pattern which presents the learner with tasks he has already learned to handle. That is, a disruptive training situation, provided it does not provoke student withdrawal (physical or psychological), will be more effective than one which is perceived by the learner as more-of-the-same.

(2) Second, a restrictive training environment will be more effective than an open environment. That is, during the period when a learner is formulating his fundamental standards of practice and is undergoing his early immersion in the actual "doing" of his chosen occupation, the effectiveness of training is enhanced by the intensity and absence of "distracting" influences which characterize the restrictive environment.[57]

(3) An inquiry-environment is more contributory to training effectiveness than is the traditional environment. The basis for this is that (a) An inquiry-environment facilitates the continuous development and implementation of improved occupational practice, and (b) It is assumed that the training level of concern in this paper is responsible for preparing persons who are innovators as well as highly skilled professionals.

(4) The training setting which focuses interaction will be more effective than a diffused setting. In a focused setting, there are frequent opportunities for exchange between persons who are of varying degrees of sophistication (on a given problem or issue). In a focused training setting, the organization of work and the design of the work place facilitate planned and unplanned interaction among persons who are able and motivated to teach each other.

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[57] I am aware, of course, that one might bring questions of value to bear at this point. Does one really want to generate influence of this intensity and direct it toward trainees? More important, in my judgment, is a second question: Does one have such a viable and adequate conception of the occupational role that one wishes to exert as much influence as one can in helping trainees to develop and master that role?

This discussion of the restrictive environment should be considered in conjunction with the discussion of the inquiry-environment which follows. The reader will note the possibility of contradictions between restrictiveness and inquiry. I argue that these dimensions can be at least partially independent.

(5) A training pattern in which the learner is able to devote a substantial proportion of his time to performing activities similar to those he will perform in the occupational role will be more effective than a pattern in which learner activity is for the most part dissimilar to the work of the occupation. The dissimilarity between the activities of the student in didactic settings and the activities he would perform in the occupational role is illustrative. One should note, however, that this proposition implicitly recognizes the importance of opportunities for learners and teachers to reflect upon the effectiveness of the activities performed.

(6) A training setting in which the activities of the learner are readily visible to others whose judgment he respects will be more effective than one in which learner activities are largely unknown to teachers and other learners. That is, when the work done by the learner is under the close supervision of more experienced persons, the opportunities for rapid "feed-back" are enhanced, and, hence, the more effective the training.

(7) Finally, if one can assume that the learner aspires to the occupational status of his teachers, then a training pattern which provides for frequent interaction with a variety of such persons (role models) will be more effective than one which does not.

The above propositions can be used to generate analytic models for bases of comparison in the analysis of training settings to be presented in the next section. The characteristics of each of the two analytic models -- one of a "more effective," the other of a "less effective" training setting -- are given in Table 1.

TABLE 1

TWO HYPOTHETICAL TRAINING PATTERNS

Relative Effectiveness of the Training Pattern	
More Effective (+)	Less Effective (-)
1. Program phase: disruptive	1. Program phase: not disruptive
2. Environment: restrictive	2. Environment: open
3. Environment: encourages "inquiry"	3. Environment: traditional
4. Setting: focused	4. Setting: diffused
5. Activities: similar to those the learner would perform in the occupational role.	5. Activities: unlike those the learner would perform in the occupational role.
6. Visibility: the learner's activities are highly visible to those whose judgment he respects.	6. Visibility: the learner's activities are not readily visible to those whose judgment he respects.
7. Role models: the learner frequently interacts with teachers and more advanced learners with whom he identifies.	7. Role models: the learner infrequently or not at all, interacts with teachers and more advanced learners with whom he identifies.

With this as background, we can turn to a comparison of two training patterns. One pattern has been widely accepted and used by teacher educators (the internship pattern); the other, which I shall term the clinical pattern, has been so completely ignored by teacher educators that I must go outside the field of education to find an exemplar, the teaching hospital.[58]

III

1. The Internship Pattern. As Rutherford has pointed out, there are a variety of interpretations of the internship concept as it has been applied to teacher education.[59] For the present study, the internship pattern of teacher education will be defined as follows: (1) The period of internship follows the four-year undergraduate program in which the student has completed, for the most part, his studies in general education and subject specialization; (2) The internship is part of a graduate professional program leading to certification as an elementary or secondary school teacher; (3) The internship is co-operatively administered by a school district and the university in which the student is enrolled for the graduate teacher education program; and (4) The internship requires the student to teach under supervision for a semester or an academic year.

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[58]The results of the analysis which follows must be interpreted carefully. The two patterns will be considered outside their program context. It is likely, however, that the total effect of a training program is dependent upon the ordering of the patterns within the program. Consider, for example, Schein's observation on the graduate training of business administrators:

> The patterning of most management school curricula, including the one studied, seems to be to require the courses which reflect the most extreme faculty-executive differences early in the program and to finish the program with so-called applied or integrative courses taught by faculty whose attitudes are not very different from practicing managers. Depending upon the educational goals of the school, this process can be viewed either as very efficient preparation, or a self-defeating process of undoing in the second year some of the attitudes taught in the first year. (Edgar H. Schein, "Attitude Change During Management Education: A Study of Organizational Influences on Student Attitudes," (Cambridge, Mass.: Massachusetts Institute of Technology, January, 1966). (Mimeographed), p. 28.)

We can refer to the effect of pattern ordering as the interaction effect. In this study, by abstracting each pattern from the context of the program of which it is part, interaction effects cannot be considered. The analysis which follows must be interpreted with this in mind.

[59]Evaretta S. Rutherford, "An Examination of the Internship in the Training of Teachers" (unpublished qualifying paper, Harvard Graduate School of Education, 1958).

The Graduate Internship Program of the University of California in Berkeley is one of many programs which meet these specifications.[60] This program has been described by Stone and Robinson as follows:

> In the Graduate Internship Program the intern's role as a student member of a teacher education program is always subordinated to his role as a teaching member of a school faculty.... The intern...is and can feel that he is a regular member of the school faculty, although only a beginner.
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> . . . . . .
>
> Nothing is done to set the intern apart from other beginning teachers when he is assigned to his school. He is a full-time teacher and is completely responsible for the classes he teaches and for extra-class assignments which may be given him.... It is important that the intern perceive himself to be a teacher who is learning, rather than a learner who is teaching.
>
> . . . . . .
>
> The intern is encouraged to request help and not to depend wholly upon the school visits of his supervisor. Consequently, much assistance received by the intern is not the result of classroom observation, but may be accomplished through phone calls, conferences on the campus, or even special meetings.... On the average...a supervisor sees an intern in his school about every other week.[61]

Because the intern is a full-time teacher, the circumstances in which a staff teacher works are relevant to this analysis of the internship pattern of teacher education. One of the most important of these circumstances is the isolation of the teacher, an isolation which among other things has the effect of preventing teachers from observing the work of their colleagues.[62] The second important circumstance is that few schools can be described as "centers of inquiry." As Schaefer puts it:

> My observation and experience tell me that schools are ordinarily conceived as educational dispensaries -- apothecary shops charged with the distribution of information and skills deemed beneficial to the social, vocational, and intellectual health of the immature. The primary business of a dispensary, of course, is to dispense -- not to raise questions or to inquire into issues....[63]

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[60]James C. Stone and Clark N. Robinson, The Graduate Internship Program in Teacher Education (Berkeley and Los Angeles: University of California Press, 1965).

[61]Ibid., pp. 52-54.

[62]Dan C. Lortie, "Teacher Socialization: The Robinson Crusoe Model," in NCTEPS, The Real World of the Beginning Teacher (Washington, D.C.: National Education Association, 1966).

[63]Robert J. Schaefer, op. cit., pp. 33-4.

With this as background we can begin the analysis of the internship pattern for its training effect. It seems clear from the description provided by Stone and Robinson that, although the intern is an active participant in the teaching tasks of the school -- indeed, he performs the same tasks as regular staff teachers -- his work is not readily visible to those whose judgment he may value. The infrequent visits of his supervisors are grounds for a degree of qualification of this assertion; for the most part, however, the intern does work alone. Not only is his work not visible to others, but the intern is also deprived of opportunities to observe the work of other teachers. In other words, the intern is effectively isolated from staff members and other interns who might serve as his performance models. These generalizations, of course, hold only for internships in schools organized on the traditional basis of one teacher to a classroom. A team teaching situation could have very different characteristics, particularly in the respect of visibility.

In schools organized on a traditional basis, what little interaction there may be among teachers is likely to be focused on the staff lounge. Here, the level of discourse on professional matters, constrained by the primitive state of the technical vocabulary in education[64] and by the inability of participants to call upon collectively experienced situations, is of doubtful instructional value. Therefore, the staff room as a focal point for interaction is a poor substitute for the focused settings of the clinical pattern to be discussed later in this paper.

Because of the heavy work load carried by teaching interns, which implies a likelihood that out-of-school hours are preempted by school-related obligations, one could refer to the training environment of the internship as being a restrictive environment. This can be turned to good advantage in a training program, in the sense that the absence of distracting stimuli facilitates undivided student attention to the stimuli of his training environment. In the case of the teaching internship, however, the principal sources of stimuli in the training environment are the pupils whom the intern teaches and these stimuli may be of mixed educative value for the intern. This being the case, it is likely that the restrictive nature of this training environment may well serve no positive purpose, and may indeed hamper the personal and professional development of the intern.

Furthermore, the typical school environment to which the intern is exposed would have to be described as traditional. As Schaefer points out, few schools encourage their teachers to engage in systematic questioning of current practice. Indeed, it is probably in the short-run interest of organizational stability that inquiring behavior not be encouraged. In addition, the isolation of teachers militates against the sustenance of an ethos characterized by questioning of current practice. It is difficult to keep alive a desire to question and improve on current practice when the encouragement which might be provided by one's colleagues is subtantially absent.

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[64] Ibid., p. 64. Schaefer writes: "There are...few opportunities for serious discussion, and the lack of a developed, specialized vocabulary and meaningful sets of pedagogical concepts make the professional communication which does occur nebulous and imprecise."

Finally, there can be no doubt that the internship pattern may be a disruptive experience for students. To the extent that the conditions of the internship approximate the conditions faced by the first year teacher, and the fit would seem to be a good one, then the intern may well encounter the problems of "reality shok."[65] In the context of a social system which can sustain the student while he develops new sources of support, a disruptive experience can have positive outcomes. One might well doubt that the usual internship does provide the student with such a supportive context.

In conclusion, the internship pattern bears similarities to both the "more effective" and "less effective" training models. Certain properties of the internship pattern are similar to the positive features of the clinical pattern which will be considered next. In other respects, the internship pattern has shortcomings.

2. The Clinical Pattern. Although no teacher education program presently makes use of the clinical training pattern on a comprehensive scale, an excellent example of clinical training can be found in the undergraduate and graduate training of physicians in teaching hospitals.[66] Paul S. Russell, chief of the surgical service of Massachusetts General Hospital, has described the training functions of the teaching hospital as follows:

> The core of the whole teaching hospital complex... is the teaching ward... a splendid arena in which clinical teaching at all levels can be pursued. The ward includes a manageable number of patients placed under the care of a group of young physicians and surgeons of graded seniority. This group of doctors is a stable one with the same individuals working together as a team for at least some months at a time. They are closely supervised by senior men of much wider experience who act as guarantors of the quality of the overall care of the patient. Consultants representing a wide range of special talents are freely available.[67]

Students at three stages of professional training are taught in the teaching hospital: undergraduate medical students, interns, and residents. In the sense that the responsibility delegated to students is, from the beginning, significant and increases with each successive level, the

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[65]Miriam Wagenschein, "Reality Shock" as referred to by W. W. Charters, Jr., "The Social Background of Teaching," in N. L. Gage (ed.), Handbook of Research on Teaching (Chicago: Rand McNally & Company, 1963).

[66]John H. Knowles (ed.), The Teaching Hospital: Evolution and Contemporary Issues (Cambridge, Mass.: Harvard University Press, 1966).

[67]Paul S. Russell, "Surgery in a Time of Change" in John H. Knowles (ed.), op. cit., pp. 57-58.

instructional pattern may be termed a disruptive one.[68]

The environment of the teaching hospital tends to be restrictive. The demands made upon the student's and house officer's time by the hospital duties for which he is responsible, including night and weekend assignments, place severe limitations on his exposure to non-hospital ideas and values.[69] The student's social world is made up largely of students, patients, and other hospital personnel. On the other hand, the hospital provides the student with new ways of earning recognition and with "charismatically-endowed exemplars"[70] of professional practice -- the environment, in short, is restrictive to outside non-medical influence, but is internally potent in the influence it brings to bear on students.

Whereas the environment of the typical teaching internship was characterized as traditional, the environment of the teaching hospital for medical students, house officers, and staff men is one which fosters inquiry. This judgment is based on the following observations, using the Massachusetts General Hospital as a case in point. The MGH has an annual research budget of the order of ten million dollars.[71] In the words of Robert Glaser, Professor of Social Medicine at the Harvard Medical School: "It is in the teaching hospital that the frontiers of clinical medicine lie. There is no

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[68]See Becker et al., op. cit., Part III; and Intern by Dr. X (New York: Harper & Row, 1965). Students seem to recognize the motivating effect of a "disruptive" training situation. As one Harvard Medical School student in the final week of his Principal Clinical Year put it: "I like to be pushed into the water deep enough so that I'll feel uncomfortable but not so deep that I'll drown.... (When I'm uncomfortable), that's when I'm learning.... Toward the end of the Introduction (to the Principal Clinical Year)... I was coasting in the sense that I wasn't learning anything new, perhaps accumulating a tiny bit more experience. I was completely comfortable.... Anything that you haven't faced before (makes you uncomfortable) -- either in terms of procedures... or also a position of responsibility where you're faced with something new. For example, suddenly a patient becomes short of breath and if you've never seen anything like it before, you really have to think in deciding what to do.... (This is a real motivator) so long as you don't feel you're in real trouble. If you can sit back and think...then it's fine. That's being uncomfortable. Being overwhelmed -- that's another matter. Then I'd run for the phone as fast as possible." (Note: This statement and all the unattributed selections in this paper are taken from the author's continuing research project on the teaching hospital as a training setting.)

[69]Ibid. In addition, consider the following statement of another student: "I'm so tired when I'm off that I just clonk out.... When I'm off, I still feel a great push to do medical reading. Not that I do it necessarily, because often I'm tired and I go to bed.... During the year I never read anything (but medicine) because if I have time to read, the guilt feelings of not knowing enough -- never, never knowing enough -- you do that rather than go out. You may waste the time anyway, but if you sit there day-dreaming with a medical book in your hand, you don't feel guilty."

[70]Isidor J. Thorner, op. cit.

[71]Robert J. Glaser, "The Teaching Hospital and the Medical School" in John H. Knowles (ed.), op. cit., p. 27.

single area of the teaching hospital that is not affected by the exciting advances everywhere about us in medicine and the sciences basic to medicine."[72]

Furthermore, many of the senior residents, the persons most frequently involved in the teaching of more junior persons, have themselves had two years of research experience in the labroatories and clinics of the National Institutes of Health. Thus, participation in research activities is built into the chain of steps leading to board examinations and specialty certification. Medical students and junior house officers at the lower end of the clinical ladder are exposed to an environment in which changes in medical practice are continually being worked out and implemented. This is an environment in which a critical attitude on the part of both learners and teachers is encouraged. As the chief resident in medicine at the MGH put it in a recent interview:

> We're surrounded by people who are informed -- and we have libraries. We consider it quite appropriate that no statement be beyond challenge. Whether it comes from a student or a professor, it has to be based to some degree on evidence, when this is possible -- from experience, or the literature, no matter what. We like to feel that we can challenge anything without being overly contentious. But we have to create an attitude of inquiry here; we like to take nothing at face value when we can have recourse to getting more basic information.

We turn now to an analysis of the setting for training in the teaching hospital -- is it focused or diffused? Proceeding from Russell's description, we would conclude that interaction among patients, interns, residents, and senior physicians is focused on the teaching ward.

> The ward thus becomes the scene of enlightening discussion and debate. New evidence from the literature and from direct observation is constantly being brought forward. Shared curiosity leads to mutual instruction.... The provision for some degree of stability of the medical staff, both senior and junior, for certain periods of time is essential to the kind of communication between them which is required for proper teaching.[73]

All members of the team, including the undergraduate medical student, are actively engaged in the practice of medicine. Each member's activities are closely supervised by a more senior member of the team's hierarchy. Robert H. Ebert, now dean of the Harvard Medical School, gives the rationale for this procedure as follows:

> Clinical medicine can only be learned well by active participation on the part of the physician in training, and this requires a very real delegation of responsibility. This is a graded responsibility, to be sure, and that given to the medical student is very different than the responsibility

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[72] Ibid., p. 28.

[73] Russell, op. cit., p. 58.

> given to the intern and resident. Nevertheless, the student participates actively in the care of the patient -- always under the closest supervision.[74]

Each member of the team is an active participant in the work of medicine. Furthermore, the work of each participant is highly visible to the other members of the team, whose judgments, in the usual case, he will value.

Finally, because of the team structure and the availability and use of consultants, the student has opportunities for frequent interaction with a range of possible role models, to whose status as a qualified specialist he may aspire.

The results of the comparative analysis of this chapter are summarized in Table 2.

TABLE 2

COMPARATIVE ANALYSIS OF TWO TRAINING SETTINGS

Summary of Results

Training Pattern	Pattern: disruptive or non-disruptive	Environment: restrictive or open	Environment: encourages inquiry or traditional	Setting: focused or diffused	Activities	Visibility	Role Models
Internship	+	+	-	-	+	-	-
Clinical	+	+	+	+	+	+	+

\+ The property tends toward enhancing the effectiveness of the pattern.

\- The property tends toward detracting from the effectiveness of the pattern.

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[74]Robert H. Ebert in John H. Knowles, op. cit., p. 77.

IV

The clinical pattern for organizing the three functions of service (in the case of education, the service function would be the instruction of students), personnel development, and research would seem, on the basis of the foregoing analysis, to be of considerable interest to educators.

In this concluding section, I will explore briefly the application of the organizational principles which have been adduced above to the design of what I'll call the clinical school, the organizational analogue in education to the teaching hospital. This exploration will, or course, be tentative but it may serve as a basis for efforts to develop additional organizational tools with which to begin the solution of fundamental instructional problems.

A suggested organizational plan is shown in Table 3. The important features to note are as follows:

(1) Personnel at each level assume a significant degree of responsibility -- and the nature of this responsibility changes and increases at each level. In the proposed system, the junior and senior intern are assigned, under close supervision, the important instructional counseling function.[75] The team leader would coordinate the range of general education offerings provided by his team members, and would have significant teacher education responsibilities toward the interns in his team. The fellows and in-service teachers would consult on curriculum problems. At the house level and above, the clinical appointees would provide leadership, particularly for the research and teacher development functions of the school.

(2) The teaching team with its counseling groups would have an appropriate space for its instructional activities. (It would confine its attention to general studies, with specialized studies being provided in other areas of the school). This space would be such as to facilitate (i.e., focus) interaction among the nine full-time team members, and with consultants who might be called in to assist.

(3) It is probable that for the first three years of the graduate program -- junior intern through team leader -- a period which includes heavy teaching responsibilities as well as graduate study, the clinical school would tend to be the center of the trainees' life. That is, the program would tend to be restrictive.

(4) Several measures are provided for which should serve to create and maintain an inquiry-environment. First, a significant research component would be ensured by the senior clinical professorships -- supplemented by the short-term clinical assistant professorships and the research fellowships for fourth- and fifth-year students.

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[75] I am assuming a school curriculum which heavily emphasizes independent study. Thus, it would be the interns who would work closely with students and help them shape their curriculum choices.

TABLE 3

STAFFING THE CLINICAL SCHOOL

Organizational Level	Approximate Number of Students	Personnel Category (Number required)	Year in Program	Duties*	Source of Support
I. Counseling group	18-19	1. senior intern[x] (1)	2nd	a. instructional counseling; overall responsibility for the students in his C.G. b. supervising and teaching the junior intern	operating budget of the school (OBS)
		2. junior intern[x] (1)	1st	a. assisting the senior intern in a trainee capacity b. attending lectures, seminars, conferences	pre-service fellowship
II. Team (4 counseling groups)	75	1. team leader (1)	3rd	a. supervising the work of four senior interns b. teaching interns in formal and informal seminars	OBS and university
		2. inservice teacher (1FTE**)	not applicable	a. full-time teaching and participation in development programs on a one-year rotation from other schools	OBS
		3. fellows (1FTE)	4th and 5th	a. part-time consulting and teaching while doing research and writing doctoral thesis	OBS and graduate research fellowship
III. House	300	1. clinical assistant professor (1)	3 yr.appt. at the post-doctoral (5th yr.) level	a. research and graduate-level teaching b. administrative leadership of all house programs	university and OBS
IV. School++ (4 houses or some multiple thereof)	1,200	1. clinical professors (4)	tenured appts. with university & school system	a. leadership in the research and graduate-level training programs b. school policy formulation	university and OBS

+ Auxiliary personnel, such as teaching aides and clerical assistants, are not considered.

* All members of the clinical school staff would be engaged in teaching for at least a certain number of hours each week. Thus, teaching duties will not be explicitly identified in this category.

x Both the senior and junior intern would have completed undergraduate programs, and are assumed to have an adequate beginning subject competence.

** FTE=full-time equivalent

++ This outline does not take account of administrative and other kinds of specialized staffing.

Second, there would be a regular turnover of school personnel. Of every four entering junior interns, two would leave the clinical school after completing the first two years of the program which lead to the master's degree. The remaining two would leave the school either three years later after earning the doctorate to assume positions as teacher educators -- or six years later at the conclusion of an appointment to a clinical assistant professorship.

Third, the only persons in the school whose role, on first examination, might not seem to demand the critical examination of current practice, would be the in-service teachers, who would come to the school on rotations of up to a year in duration. Nevertheless, they too would be learners and would be selected on the basis of their ability to learn and to disseminate new practices in their home school.

(5) The activities in which all staff members would engage while learning are closely related to the "core tasks" undertaken by a fully qualified professional.

(6) The team teaching basis for the school organization ensures a highly visible training setting.

(7) The differentiated nature of the school staff should ensure access by learners to a variety of possible role models.

This brings to a conclusion our brief discussion of the way in which a clinical school might be organized. Successful schools of this type, experimental training facilities located in public school systems and linked closely with universities -- demanding significant resource commitments from both -- have yet to be established. The existence of university laboratory schools does not, in my judgment, run counter to this assertion. Such schools would seem to fall far short of the mark at each of three fundamental points: (1) They generally serve a selected student body which does not reflect the range of curriculum and instruction problems faced by the teacher in, say, an urban comprehensive high school;[76] (2) They generally do not provide for team approaches to curriculum and instruction which would facilitate the education of a range of persons ranging from the first year graduate student in a pre-service teacher education program to the senior doctoral student specializing in some aspect of teacher education; and (3) They do not

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[76]Lazarsfeld and Sieber report that "often the chief function (of laboratory schools) is to provide superior education for the children of faculty members who themselves are professional educators." (Op. cit., p. 54).

generally have a significant, on-going research and development function.[77]

At least one bold attempt in recent years has been made in the direction of the clinical school concept. The results of this experiment were not encouraging.[78] It is my hope, nevertheless, that intensive efforts will be made to understand the reasons for the failure of New York University's "Clinic for Learning" -- and that further efforts will be made to implement this promising organizational concept.

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[77]Brickell reports that "campus schools in New York State, like most of them across the country, are not experimental. Powerful constraints make bold experimentation impossible in these schools. One such constraint is the belief of the college faculty that prospective teachers who visit the classrooms might be indelibly impressed by questionable methods because they lack the experience to judge unorthodox approaches critically. Another is that a school devoted to demonstrating the best known methods is not free to experiment aggressively with untested methods." See Henry M. Brickell, Organizing New York State for Educational Change (Albany, N.Y.: State Education Department, 1961), p. 51.

[78]See Homer Bigart, "N.Y.U. Clinic Stalled in Trying to Improve School," The New York Times, Sunday, November 26, 1967.

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